TRANSACTIONS

OF THE

NEW YORK SURGICAL SOCIETY.

Stated Meeting, January 9, 1907.

The President, Dr. George Woolsey, in the Chair.

EPITHELIOMA OF THE TONGUE: FOUR YEARS AFTER OPERATION.

Dr. Clarence A. McWilliams presented a woman who was twenty-four years of age when she was admitted to the Presbyterian Hospital, in August, 1902, complaining of a painful lump on the side of the tongue, which she had first noticed three months previously. Pain on chewing was very severe, so that she took only fluids. She had lost much flesh and strength.

Examination showed a hard, superficial lump about the size of a dime, situated on the left edge of the tongue, about 1 inch from its tip. There was no ulceration. It extended just to the dorsum, and impinged very slightly on the mucous membrane of the floor of the mouth, but not as far over as the attachment of the mucous membrane to the lower jaw. The tongue was freely movable. Opposite the lump there was a sharp carious tooth. One gland, the size of a marble, could be felt under the angle of the left jaw. A section which was removed showed flat-celled epithelioma, full of epithelial pearls.

Operation was performed on August 20, 1902, more than four years ago. Under morphin and ether narcosis, a curved incision was made below the jaw, exposing the submaxillary triangle. This flap was dissected up, uncovering the submaxillary gland, which seemed enlarged. The external jugular was divided, and several small lymphatic glands were removed, with all the fatty tissue in the triangle. Under the angle, one gland, about the size

of a marble, was excised. The lingual artery was tied in the usual place. The head was then turned strongly to the right, the mouth held widely open by a mouth-gag, and a stout silk thread transfixed the tongue which was drawn well into view. An incision was then made, widely encircling the growth on the dorsum, and extending deep through the tongue into the muscles on the under surface. The knife, passed from below upwards along the inner surface of the jaw, divided the mucous membrane at its attachment to the jaw. The entire mass was then removed in one piece through the mouth, consisting of a section of the tongue, with the growth, the muscles of the tongue, and the submaxillary and sublingual glands. The hæmorrhage from the raw area was minimal. The raw edges of the tongue were brought together with catgut, excepting for a distance of about 1 inch posteriorly. An inch and a quarter of the left anterior lateral portion of the tongue was removed. Pathological examination of the submaxillary and sublingual glands showed that they were not involved. The lymph gland removed from the angle of the jaw showed that it was affected with epithelioma.

The patient took X-ray exposures to the neck twice a week for one year after the operation. It was now almost four and a half years since the operation, and there were no evidences of a recurrence, although in view of the lymphatic involvement a recurrence had been expected. Whether the X-ray exposures contributed to the result could not be stated, but it was doubtful. The case emphasized the necessity of removing all the lymphatic glands, even in very small and early growths, and brought up the question whether in these cases it was advisable to always remove the glands from *both* sides of the neck even when they were not palpable, or should we limit the removal to the side of the neck on which the growth was situated?

The age of this patient at the time of operation, twenty-four years, was somewhat unusual. Her speech now was practically perfect. Examination showed that the tip of the tongue was drawn to the left, and tightly attached to the jaw.

NEPHRECTOMY FOR HYPERNEPHROMA.

Dr. Charles H. Peck presented a man fifty-three years old, who was operated on for chronic appendicitis about two and a half years ago. His recovery was prompt and uneventful. In

June, 1906, he had right-sided pneumonia and pleurisy, followed by double femoral phlebitis. He was under treatment in a hospital for about seven weeks, and during a part of this time was said to have had albumin and casts in the urine. The urinary changes were thought to indicate an acute nephritis secondary to the pneumonia. Since the latter part of August, 1906, he was at his home, but did not gain in strength. He admitted having had a feeling of weight and discomfort in the right side of the abdomen for more than six months, but during his stay in the hospital he did not call the attention of the physicians to it, and was not definitely aware of the presence of a mass. This was suspected a month or so later, and, about the first week in November, after consultation, it was thought to be an inoperable growth involving the large intestine.

When the patient was first seen by Dr. Peck, in consultation with Dr. C. C. Page, on November 13, 1906, the patient was greatly emaciated, and weak and cachectic in appearance. A very large, well-defined mass filled the right side of the abdomen, and could be felt posteriorly. Its surface was smooth, its consistence firm and elastic, and the impulse from the hand in front could readily be felt posteriorly. The tympany of the colon could be traced in front of the mass.

There had been a tendency to constipation, but no obstruction, diarrhœa, or blood in the stools. There had never been any blood in the urine. A moderate elevation of temperature was present, and had persisted for some time. A well-marked valvular heart lesion had been present for a number of years, but compensation was good. There was a marked varicosity of the superficial veins of the right half of the abdomen and the lower thoracic region, which was said to have developed during the attack of femoral phlebitis above referred to. The patient had been failing steadily for several weeks. The tumor had increased in size perceptibly, and he had had a number of "weak spells" or attacks of partial syncope that were quite alarming.

A diagnosis was made of enlarged right kidney, probably a neoplasm, and an exploratory operation was advised. The possibility of a thick-walled hydronephrosis, with a recent low grade of infection, was considered.

Upon the patient's admission to Roosevelt Hospital, on November 16, 1906, his temperature was 101 degrees F.; pulse,

100. An examination of the blood showed 7,800 leucocytes, and 3,400,000 red blood cells; polynuclear cells, 76 per cent.; hæmaglobin, 70 per cent. The urine had a specific gravity of 1028; it was turbid; acid; contained a heavy cloud of albumin; no sugar. Cystoscopy, by Dr. Walter Klotz, with catheterization of the left ureter, showed that the left kidney was functionating well, and that the urine from that side was practically normal. No urine was observed coming from the right ureter, which was not catheterized. An X-ray plate showed no evidence of stone. The shadow in the right kidney region suggested tissue denser than the normal, similar to that seen in old pyonephrosis.

Operation was performed on November 19, 1906, under ether anæsthesia. An oblique incision was made posteriorly over the right kidney, which was later enlarged by the Koenig method. The kidney was much enlarged and tense, with many dilated veins in the fatty capsule. The exploring needle withdrew brownish fluid and particles of necrotic tissue. The anterior and posterior surfaces, at the upper and lower poles, were carefully freed from the surrounding tissues, which were quite adherent to the peritoneum. A large branch of the renal artery which entered the lower pole of the kidney had to be clamped and divided to allow the delivery of the kidney. Isolation of the pedicle was difficult. Heavy chromic gut ligatures were passed on an aneurism needle, and the pedicle transfixed and tied. A heavy clamp was placed distal to the ligatures, and the kidney removed by cutting through its substance near the hilum. Other chromic gut ligatures were placed behind the clamp and tied as it was slowly removed. The stump of the kidney was then trimmed off, two cigarette drains were inserted, and the wound closed in layers with chromic gut, silkworm and silk, excepting at the emergence of the drains. Time of operation, thirty-five minutes.

The kidney was enormously enlarged (Fig. 1). On gross section it was seen to be infiltrated throughout with necrotic-like tumor tissue. On pathological examination by Drs. Hodenpyl and Ditman it was pronounced hydronephroma.

The patient rallied promptly from the operation, and on the second day he secreted 31 ounces of urine. This contained a trace of albumin; no casts. The wound healed per primam. The patient was out of bed twenty days after the operation, and left the hospital on December 21, 1906. His urine on that day was

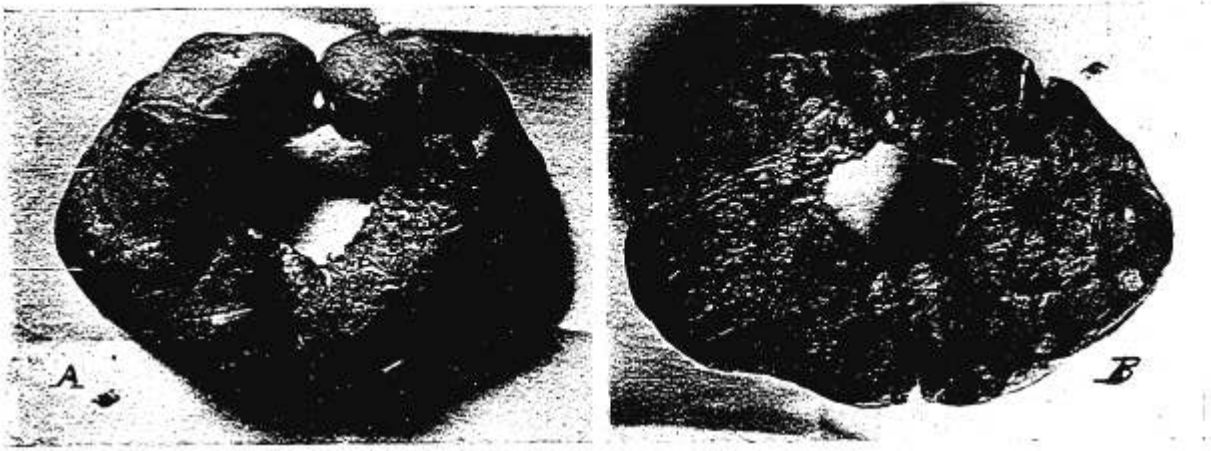

FIG. 1.—Hypernephroma of right kidney. Dimensions, 15 x 9 x 6 cm.; transverse circumference, 23 cm.; weight, 454 grammes. *A*, outer surface; *B*, cut surface.

acid; specific gravity 1012; it contained a trace of albumin; no casts. Since the operation he had gained in strength, and about 20 pounds in weight. The dilated superficial veins on the abdomen had not diminished in size.

DR. JOHN ROGERS said he was rather surprised that Dr. Peck had been able to shell out such a large renal tumor so easily. The speaker said that some years ago, in dealing with a case of this kind, he had found it necessary to divide the two lower ribs before he was able to deliver the tumor. A free exposure of the parts was also advisable, as it gave a better opportunity to control the free hæmorrhage that was at times encountered.

DR. PECK said that the curved incision, such as he used in this case, gave a fairly free exposure. In cases where the kidney was adherent at its upper pole it might be necessary to resort to the expedient of dividing the lower ribs, as suggested by Dr. Rogers. In the case he had reported, the hæmorrhage from the perirenal fat was considerable, as the veins were much dilated, but it was controlled without difficulty.

ILEOCOLIC INTUSSUSCEPTION.

DR. CHARLES L. GIBSON presented a male infant, seven months old, who was admitted to St. Luke's Hospital on December 16, 1906. His family history was negative, and the patient had always been well up to that time.

Five days before admission the mother gave the child a dose of castor oil which was followed by severe cramps, and vomiting at intervals. This condition continued for four days when blood was first noticed in the stools, and there was vomiting of greenish fluid, fæcal in character.

Upon admission, the child's abdomen was much distended and a fluid wave was elicited. A rectal examination was negative. The case was regarded as one of intussusception, and immediate operation advised. Upon opening the abdomen, the intussusception—ileum prolapsed through the valve—was found and easily reduced by manipulation. The child made an uneventful recovery, although for a week the temperature was frequently as high as 106 degrees F.

DR. ROBERT H. M. DAWBARN said statistics showed that both this condition and volvulus occasionally recurred, from the cause which originally induced the faulty peristalsis. In order to pre-

vent its recurrence, the speaker said that in two cases that had come under his care he stitched the gut to the adjacent abdominal wall at two or three points, with the idea of a temporary local limitation of peristalsis. As additional preventative measures, he suggested the use of opiates for two or three days after the operation, or after operation, in intussusception, of those two or three drugs that were known to produce reversed peristalsis.

STRICTURE OF THE ŒSOPHAGUS.

DR. GIBSON presented a woman forty-three years old; a native of Russia, who was admitted to St. Luke's Hospital on November 20, 1906. Her family history was negative. She had the usual diseases of childhood. Up to a year ago she had frequent attacks of very severe headache, with vomiting, which lasted for a day or two.

About a year ago the patient vomited a small quantity of bright red blood, and during the next forty-eight hours her stools were black in color. There was no recurrence of this until seven months later, when she vomited a larger quantity of bright blood and had tarry stools for two or three days. At that time she was in St. Luke's Hospital for eight days, but nothing was found to account for her symptoms, and, as she was in fair health, she was discharged. For the past eight months she had had gradually increasing difficulty in swallowing solid food; for three or four months she had been able to take nothing but fluids, and for the last few weeks even these had given her much trouble. On several occasions she had brought up blood, accompanied by the passage of tarry stools. She had never lost large quantities of blood, and her attacks of vomiting had usually occurred shortly after eating. She complained of a feeling of oppression over the lower end of the sternum, but no severe pain. She had a good appetite, but had lost about 25 pounds in weight on account of her inability to swallow food. Her difficulty in swallowing varied considerably: sometimes, for two or three days, she experienced little trouble; then, for a time, she could swallow only a little fluid, and that with difficulty.

Upon admission, the patient was found to be a large, well nourished woman. The heart, lungs and abdominal organs were apparently normal. A No. 24 bougie introduced into the œsophagus met with an obstruction 15 inches from the teeth and smaller

bougies were all arrested at 16 inches. An X-ray picture, taken after the œsophagus was filled with bismuth, showed a funnel-shaped dilatation above a tapering, narrow stenosis of the tube. The obstruction was believed to be due possibly to a tumor of the cardiac orifice of the stomach, and an exploratory gastrostomy was decided on. This operation was done on November 23, 1906. The stomach was normal, and Kader's gastrostomy was done to put the stomach at complete rest. A month later, a string introduced through the mouth was fished out through the gastrostomy opening, the stomach having first been filled up with water, which was then drawn off with an aspirator introduced through the gastric fistula. The stricture was then divided by the string method, until a No. 33 bougie could be passed, not, however, without some difficulty. A moderate amount of bleeding from the mouth followed this procedure.

Following this operation, Dr. Gibson said, the patient was able to take solid food with comparative ease, but since then there had been a gradual recurrence of the stricture. The presumption was that the growth of the œsophagus was a malignant one. The gastrostomy opening is preserved and functionates perfectly without leakage.

OSTEOPLASTIC RESECTION OF THE SKULL FOR INTRACRANIAL HÆMORRHAGE.

Dr. Willy Meyer presented a young man of twenty years, who on June 17, 1906, was thrown from his horse, striking the macadamized road with his right temple. He was immediately unconscious, and was carried home, where he was treated for concussion for forty-eight hours. Then focal symptoms developed, involving the upper left extremity, especially the hand, the left lower extremity, and part of the left facial nerve, the lower eyelid on that side hanging down. His pulse had gradually grown slower, finally reaching 48 per minute, with a temperature of 102 degrees F. There had been no convulsions. He had vomited on the first day after the accident.

When Dr. Meyer first saw the patient, at the beginning of the third day, he was semi-conscious, and protruded his tongue when he was asked to do so. His pupils reacted; the reflexes were slow. There was involuntary urination and defecation. The case was regarded as one of epidural hæmorrhage, due to injury to the middle meningeal artery.

Operation, June 20, 1906. An osteoplastic resection of the right temporal bone was made, as for neuralgia of the fifth nerve. At five places the superficial portion of the bone was chiseled away, and the skull here drilled with Doyen's instrument, and then opened with the Gigli saw, with the assistance of Braatz's instrument. Underneath the skull flap, a large quantity of clotted blood was found, extending upward toward the motor area. This was scooped out. The bleeding proved to be extradural, and the dura was not opened. The osteoplastic flap was thereupon replaced, using the lower trephine openings for the purpose of drainage.

Immediately after the operation the patient's pulse, which had ranged between 48 and 56 per minute, rose to 72. The focal symptoms slowly subsided. The patient's further recovery was uneventful; he left the hospital on the thirteenth day after the operation. To-day he is entirely well and has resumed his horseback riding.

Of special interest in the case seems the rise of temperature on the third day after the injury. A consultant was inclined to attribute the same to a beginning meningitis. In Dr. Dawbarn's case, presented a few months ago, a neurologist explained the like observation, as probably due to an irritation of the heart-centre. Dr. Meyer said he did not share these views, but would explain the fever as the so-called "aseptic," so frequently found in cases of uncomplicated fracture.

DR. DAWBARN said, apropos of Dr. Meyer's description of his brain operation, in which he alluded to Dr. Dawbarn's recently reported similar cases, that he is about to publish in the ANNALS OF SURGERY [this article was printed in the February, 1907, number] an account of several such operation made safer by means of cording the extremities in such a way as to accumulate in them large quantities of blood. In consequence there is, to mention one advantage only, an anæmia of the brain, comparable to that of natural sleep; and at least sometimes it is possible, the patient once chloroformed as usual, to withdraw this drug, and depend for analgesia wholly upon the factor mentioned. Dr. Dawbarn in this article details two instances for example, in which operations three-quarters of an hour long were performed upon dura and brain without suffering, and without awakening until the limbs were uncorded.

INCOMPLETE INTESTINAL OBSTRUCTION: CÆCOSTOMY UNDER COCAINE.

DR. WILLY MEYER presented a man, sixty-two years old, who was admitted to the German Hospital on October 31, 1906. About four months ago he began to feel weak, and lost considerable weight. Three weeks ago he began to suffer from nausea and belching and constipation. There had been no vomiting; the patient had never passed any blood. The abdomen was distended, and the patient complained of some pain on the right side. A careful examination revealed a mass in the left inguinal region. A rectal tube was introduced, which met with an obstruction about 8 inches above the anus. Peristaltic motion was visible through the abdominal wall, and there was a pronounced gurgling sound on auscultation. An examination of the blood showed advanced leukæmia, and the spleen was considerably enlarged.

On November 2, 1906, under local cocaine anæsthesia, the abdomen was opened. The large intestine, much distended, presented. The cæcum was pulled forward and attached to the peritoneum by means of a continuous suture. After carefully protecting the surrounding parts, a very small incision was made into the gut, giving exit to a large quantity of gas and thin, yellow fæcal matter. A good-sized, stout rubber tube, which effectually prevented leakage, was then introduced into the gut, and a permanent cæcostomy wound thus established. To make a water-tight canal according to the Kader-Gibson method seemed contra-indicated in view of the tremendous bowel distention.

The patient made an uneventful recovery from the operation, and his general health had gradually improved. He still wears his tube, which drains, almost water-tight, into a medium-sized glass bottle, which he wears within one leg of his trousers, properly fastened. The stool within the cæcum is kept liquid by daily administration of a small dose of aperient water. There arrive frequent normal defecations per anum. The mass in the left inguinal region has not diminished in size. Patient is opposed to further operating.

The case was apparently one of incomplete intestinal obstruction, due possibly, in view of the result of rectoscopy, to lymphoid infiltration of the walls of the bowel. The patient had never passed any blood or mucus in the stools. The number of leucocytes ranged from 130,000 to 180,000.

DR. GIBSON said that in one case of acute intestinal obstruction of the hepatic flexure resulting from adhesions produced by an empyæma of the gall-bladder, he had resorted to a valvular cæcostomy after the method he has recommended with very satisfactory results. The tube in that case could be readily withdrawn, and it was removed permanently at the end of nine days. The speaker said he had also found this a satisfactory procedure in other cases of intestinal obstruction.

DR. MEYER said that his reason for making the fistula not water-tight in this case was on account of the enormous distention of the gut. Even with the very small incision that he made into the gut there was a tremendous gush of fæcal matter, which would have rendered the proper protection of the peritoneal cavity difficult had the gut been opened primarily, as is necessary in the Kader-Gibson cæcostomy.

ABDOMINAL SECTION FOR PERICOLONIC PERITONEAL ADHESIONS.

DR. WILLY MEYER presented a man fifty-eight years old who had long suffered from constipation. When he came under observation, on November 17, 1906, he stated that he had lost more than 20 pounds in weight during the past few months, and that since February, 1906, he had suffered from frequent attacks of pain, starting from the middle of the transverse colon and passing down to the sigmoid flexure. He also had occasional attacks of severe cramp-like pain, with rumbling sensations over the entire abdomen. His stools consisted of small, round masses, resembling the fæces of sheep. A rectoscopic examination was negative; also repeated palpation. A blood examination was normal.

An exploratory operation was requested by the patient, and this was done on November 17, 1906. Upon opening the abdomen by means of a small incision, the introduced hand could not feel a tumor anywhere, but upon lengthening the wound for the purpose of inspecting the colon, a number of broad, fan-shaped adhesions were found springing from the parietal peritoneum, surrounding the mesocolon and mesosigmoid, pulling the gut aside, and constricting its calibre. These adhesions were divided between double ligatures until the entire gut was freed. The abdomen was then closed.

The patient had improved greatly since the operation,

although he complained off and on of slight pains in the region of the sigmoid.

THE OPERATIONS FOR NEOPLASMS OF THE TONGUE.

DR. JOHN ROGERS read a paper with the above title, for which see page 553.

DR. F. KAMMERER said he did not quite agree with the reader of the paper as to the advisability of attempting all these operation from the mouth, excepting in those cases where the tumor was still rather small and situated at the border of the tongue. Whether in such cases glands could be felt or not the speaker said he always began the operation with an incision below the inferior maxilla of the affected side, resembling the old Kocher incision for extirpation of the tongue, perhaps supplementing it with a second incision in a downward direction along the anterior border of the sternomastoid muscle. He then extirpated all the glands and the salivary glands in the submaxillary and carotid triangles, and it had been his practice always to ligate the lingual artery. Then it was generally possible to remove the growth with a wedge-shaped excision. The speaker did not think it necessary to remove the entire half of the tongue anterior to the tumor.

Dr. Kammerer said that the moment these malignant growths of the tongue had extended beyond the confines of that organ, one of the bone-cutting operations was indicated. When the disease had invaded the floor of the mouth, he preferred the Langenbeck incision, and in those cases he usually made a bayonet-shaped cut through the bone, which he thought was best suited to hold the bone in place afterwards. When the tumor had invaded the soft palate and perhaps the tonsil, he preferred the Mikulicz procedure of extirpating the ascending ramus of the jaw. In advanced cases, the speaker thought that method gave even a better access to the affected parts than did that of Langenbeck. In both of these operations, it was advisable to tie the external carotid as a preliminary measure.

Dr. Kammerer said that within the past few years, after seeing Kocher do his modification of the Sédillot operation of median section of the lower jaw, he had tried it on a few occasions. Where the tumor was situated near the tip of the tongue, the operation seemed to him certainly a good one, but he had had

difficulty in removing growths by this method that were situated far back in the mouth, and did not consider the method as convenient for these cases as those of Langenbeck and Mikulicz.

The speaker said that in operating on these cases in former years, he had occasionally resorted to a preliminary tracheotomy, and his results, in common with those of other surgeons, were not encouraging. That this procedure increased the danger of pneumonia was generally conceded and the speaker had himself lost two cases of extirpation of the tonsil in former years from this cause.

Dr. Charles L. Gibson said that in cases of advanced epithelioma of the tongue, involving the neck and necessitating some form of division of the bone, he thought the operation was best done in two stages. A preliminary tracheotomy he deemed unnecessary and painful, as the same object could be accomplished by administering the anæsthetic through a tube introduced through the nostril or mouth, and surrounded by packing. With preliminary ligation of the external carotid there was practically no bleeding.

As regarded the choice of operation, the speaker said he thought the Sédillot incision now recommended by Kocher gave the best exposure when the tonsil or pharynx was involved. No matter which method was employed, however, the final results, in his experience, had not been good. In most of the cases upon which he had operated, the disease was far advanced. He could not recall a single instance in which immunity from recurrence had been enjoyed as long as in the case shown this evening by Dr. McWilliams. It was a curious fact, Dr. Gibson said, that patients who were suffering from such a malignant and distressing condition as cancer of the tongue should so frequently allow the condition to progress to an inoperable and hopeless stage.

Dr. Gibson called attention to the fact that the raphé of the tongue practically divided the organ into two separate parts, and he inquired of Dr. Rogers what effect that would have upon the blood supply in attempts to save the tip of the tongue in exsecting the median portion of one-half of the tongue.

Dr. Willy Meyer said that the original Kocher operation, which seemed to have been abandoned, could be improved to a great extent if we divided the anterior belly of the digastric muscle. By the original method, that muscle had usually been preserved.

The speaker said that in a case of carcinoma of the tongue upon which he operated in 1897, where the diagnosis was confirmed by the microscope, he did a preliminary tracheotomy and then followed the Kocher method, thoroughly dividing the anterior belly of the digastric, drawing the tongue forward and extirpating about three-fourths of the organ, and extending the incision as far down as necessary to the hyoid bone. Then the tip of the tongue, which had been preserved, was turned back, and stitched to the remaining part. Of course the lymphatic glands had also been carefully removed. That patient was still alive to-day; he was able to talk well, and had no indications of a recurrence.

Dr. Meyer also referred to a case of sarcoma of the tonsil, which had invaded the pharynx, soft palate and tongue in a young man whom he showed at a meeting of the Surgical Society in 1890. In that case he operated by the Mikulicz method, dividing the floor of the mouth and removing the tonsil, entire tongue and part of the pharynx. In all these extensive bone operations, the speaker said, he regarded ligation of the external carotid as preferable to the lingual.

In regard to the administration of the anæsthetic in these cases, Dr. Meyer said, the introduction of a tube through the mouth or nostril, as mentioned by Dr. Gibson, was an excellent plan in cases where the growth was favorably situated. Where a preliminary tracheotomy was deemed essential, the occurrence of a subsequent pneumonia could possibly be averted by inserting a tracheal tampon cannula, and packing above, leaving the latter in place for forty-eight or fifty-two hours.

The extirpation of the glands was a very essential adjunct to these operations on the tongue, and the speaker said he could recall at least two instances where a recurrence took place in the glands posterior to the sternomastoid, and they had impressed upon him the importance of cleaning out the entire chain of glands, both anterior and posterior, from the sternomastoid to the base of the skull.

In speaking of the after-treatment of the wound following removal of the tongue, Dr. Meyer said he thought it should be left entirely open. He recalled one case where death occurred on the eighth day, due to sepsis, where the internal wound after extirpation of the tongue was closed up to an opening large enough to give exit to the gauze and tampons.

DR. L. W. HOTCHKISS said that in dealing with these cases of epithelioma of the tongue he was glad to hear the emphasis that had been placed by the previous speakers upon the importance of extirpating the glands, because he had been impressed with the relative frequency of recurrence in the posterior chain of cervical glands.

The speaker said that so far as his personal experience with these cases went, he was rather inclined to favor the Whitehead operation through the mouth, with extirpation of the cervical glands as widely as possible on the side of the cancer. In the more extensive cases, with involvement of the tonsil, Dr. Hotchkiss said he had done the operation in two stages, as suggested by Dr. Gibson, first extirpating the glands and tying the external carotid, and at a subsequent period doing a suprahyoid pharyngotomy by the Mikulicz method and completing the operation.

In order to emphasize the importance of extirpation of the glands in practically all cases, Dr. Hotchkiss cited one instance where a small epithelioma of the tip of the tongue in a woman was removed by a V-shaped incision and without gland excision. Within a few months the patient returned with an inoperable involvement of both sides of the neck. He could recall two cases of apparent recovery after operation through the mouth. In one of these cases, two and one-half years had now elapsed without any signs of a recurrence. In this case the cervical glands were also excised. The other case was operated on three and one-half years ago at Bellevue Hospital by the Whitehead method, without preliminary ligation of the external carotid or extirpation of the glands, and in this case three years had elapsed without any evidence of a local recurrence; but the glands of the left side of neck were removed a few months ago and reported epitheliomatous. This patient is in good condition after the secondary operation, and three and one-half years have elapsed since primary operation.

DR. JOHN B. WALKER said his experience coincided with that of the other speakers, that a recurrence in these cases was very apt to occur in the posterior glands. The speaker said that in a case operated on seven years ago, he removed a small epithelioma on the side of the tongue, together with the submaxillary glands, and there had been no recurrence up to the present time.

In connection with the proper feeding of these patients, Dr.

Walker said it was his custom to educate them in the use of the stomach-tube by instructing them to pass it daily for several weeks prior to the operation. Through a small rectal tube and a 3-ounce funnel they were first shown how to introduce water into the stomach, and later milk or gruel, and this knowledge proved of considerable value to them in their proper feeding after the operation.

DR. JOSEPH A. BLAKE said that in three cases of epithelioma of the side of the tongue, with involvement of the floor of the mouth and the jaw, he had removed the mandible, and in that way obtained a beautiful exposure of the parts, enabling him to remove the entire carcinomatous mass, together with the lymphatic nodes. Another advantage of this method was that the wound could be closed more perfectly, the mucous membrane of the cheek being sutured to that of the remaining portion of the tongue. In all the cases in which he had done this operation, which might be considered as an extension of that of division of the jaw, the patients had made a very smooth convalescence. In two of his cases, three years and four years had elapsed without a recurrence. The remaining mandible was held in place for about ten days following the operation by an interdental splint which had been made and fitted prior to the operation.

DR. CHARLES H. PECK, in speaking of the liability of involvement of the posterior glands, said that seven months ago he had removed an extensive epithelioma of the tongue, at the same time cleaning out the submaxillary triangle. A local recurrence was confidently expected, but instead of that the patient now had a mass as large as a hen's egg along the posterior border of the sternomastoid muscle.

Dr. Peck said he had had one experience with the Sédillot operation which proved unsatisfactory, as the severed jaw failed to unite, even after wiring and the introduction of an intradental split. The speaker said he had always ligated the linguals in operating on extensive epitheliomas of the tongue, in preference to ligation of the external carotid. The ligation was not difficult, and in one instance he was able to reach the opposite lingual through a curved incision.

DR. JOHN A. HARTWELL said that in one case similar to those referred to by Dr. Blake, the introduction of an intradental plate worked very well. In this case, however, there was an early

recurrence. As a last resort, trypsin, much stronger than the commercial preparation, was used with absolutely no effect.

DR. KAMMERER said he had also seen non-union of the jaw occur after the Sédillot operation in one case, although the bone had been carefully sutured.

DR. GEORGE WOOLSEY said that in his own experience he could not recall a single case of epithelioma of the tongue where the patient survived the three-year period. In nearly all of the cases that had come under his observation, the patients were in a desperate condition, and usually gave a history of having had previous minor operation. The speaker said that he, in common with other surgeons, had to plead guilty to the charge of at times acceding to the urgent request of patients to try conservative measures in the treatment of this condition, which demanded a radical operation because of its extreme liability of recurrence.

In reply to the query raised by Dr. Gibson as to the possibility of necrosis of the tip of the tongue after the ligation of one lingual, Dr. Woolsey said he did not think that was very likely to occur, as there was a good deal of anastomosis between the vessels of the two sides of the tongue—sometimes altogether too much, and he recalled one case where the patient bled to death after the ligation of one lingual. In that case there was an anomalous distribution of the artery. Dr. Woolsey said that in dealing with these cases he had been in the habit of ligating either the lingual or the carotid, and in one desperate case where he extirpated both carotids, he left a small section of the tongue, which subsequently sloughed.

As to the choice of operation, the speaker said that with the exception of the very favorable cases, he had usually resorted to the Kocher method, with median division of the jaw. He had never observed a case where union had failed to occur. He had never resorted to tracheotomy excepting in one case where it became imperative in order to save the patient from dying during the etherization. The speaker said that years ago, while on a visit to Billroth's post-mortem room in Vienna, he saw three cases of epithelioma of the tongue that had died of septicæmia after the operation, and these three deaths had occurred within two weeks.

Dr. Woolsey said he regarded the feeding tube as a very valuable adjunct to the after-treatment of these cases.

DR. ROGERS, in closing, said the more he saw of malignant disease the more he became convinced that certain patients would rapidly succumb to it, no matter what was done for them. The case shown by Dr. McWilliams, where there had been no recurrence after an operation for epithelioma of the tongue four years ago, was certainly an interesting and unusual one. The speaker said he agreed with Dr. Woolsey that necrosis of the tip of the tongue was not apt to occur after ligation of the lingual artery. He recently saw an epileptic who had bitten through the centre of his tongue, dividing both linguals, and the wound was closed by simple stitching without any subsequent trouble.